

The opinion in support of the decision being entered today  
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* REED CARVER and BRIAN M. KOLKOWSKI

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Appeal 2007-1927  
Application 10/668,426  
Technology Center 3600

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Decided: September 26, 2007

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Before HUBERT C. LORIN, JENNIFER D. BAHR, and LINDA E. HORNER,  
*Administrative Patent Judges.*

HORNER, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Reed Carver et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-20. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We AFFIRM-IN-PART.

## THE INVENTION

The Appellants' claimed invention is to a watercraft having a waterjet propulsion system, which includes a steering nozzle with groove(s) formed into the steering wall nozzle thickness (Specification 3:3-4 and 11-13). The angular location of the groove determines the direction that the waterjet fluid flow moves after leaving the steering nozzle (Specification 12:15-17). Proper placement of the groove results in improved thrust and acceleration, which results in higher speeds obtainable with nearly the same equipment and increased efficiency of the equipment (Specification 12:26 – 13:1). Claims 1 and 14, reproduced below, are representative of the subject matter on appeal.

1. A watercraft comprising:
  - a hull;
  - an engine; and
  - a propulsor, the propulsor comprising an impeller, a water intake, and a steering nozzle, the steering nozzle having an inlet and an exit, and an interior surface and an exterior surface, the steering nozzle further comprising at least one groove in the interior surface beginning near or at the exit and extending a distance along the interior surface toward the inlet.

14. A steering nozzle for a waterjet propulsion system comprising:

an inlet and an exit;

an interior surface and an exterior surface;

and at least one groove beginning at or near the exit and extending a distance along the interior surface toward the inlet.

### THE REJECTIONS

The Examiner relies upon the following evidence:

Kobayashi	US 5,603,644	Feb. 18, 1997
Burg	US 6,193,571 B1	Feb. 27, 2001

The following rejections are before us for review:

1. Claims 1, 3-7, and 9-20 stand rejected under 35 U.S.C. § 102(b) as anticipated by Burg.
2. Claims 2 and 8 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Burg and Kobayashi.
3. Claims 11-13 and 17-20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Burg.

### ISSUES

The first issue before us is whether the Appellants have shown that the Examiner erred in rejecting claims 1, 3-7, and 9, 10, and 14-16 under 35 U.S.C. § 102(b) as anticipated by Burg. This issue turns on whether Burg discloses a

watercraft comprising a hull and an engine and whether Burg discloses a steering nozzle.

The second issue before us is whether the Appellants have shown that the Examiner erred in rejecting claims 11-13 and 17-20 as anticipated by, or in the alternative as unpatentable over, Burg. This issue turns on whether Burg teaches or suggests the claimed length, width, and spacing of the grooves.

The third issue before us is whether the Appellants have shown that the Examiner erred in rejecting claims 2 and 8 as unpatentable over Burg and Kobayashi. This issue turns on whether the Examiner presented a reason why one having ordinary skill in the art would have been led to modify the single-propulsor boat of Burg by adding a second propulsor, as disclosed in Kobayashi.

### FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427, 7 USPQ2d 1152, 1156 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Burg discloses a watercraft hull (Burg, col. 3, l. 60). In particular, Burg discloses in several instances that the waterjet propulsor is intended to be used on a boat having a hull. For example, Burg discloses that “[i]t is another object of the invention that a nozzle that has the ability to control the trim of the waterjet propulsor driven boat be offered” (Burg, col. 2, ll. 33-35). Burg further discloses and shows in Figure 3 parts of a boat

- hull including a typical boat keel 58 and a boat transom 59 (Burg, col. 4, ll. 47-48).
2. Burg inherently discloses an engine. Burg describes in the Background of the Invention that waterjet propulsors are advantageous over propellers because they offer even engine loading (Burg, col. 1, ll. 4-7). We find that Burg's disclosure of even engine loading, combined with Burg's disclosure that the object of the invention is to control the trim of the boat with the waterjet propulsor, makes it clear that the boat disclosed in Burg must necessarily include an engine to drive the shaft 36 of the propulsor 51 (Burg, col. 4, ll. 45-47).
  3. Independent claims 1, 7, and 14 do not recite that the steering nozzle is articulated.
  4. The Appellants did not provide any definition of steering nozzle in their Specification, and the Appellants have failed to show that the phrase "steering nozzle" is a term of art with a well-recognized and definite meaning.
  5. The common dictionary meaning of the verb "steer" includes: "**1.** To guide by means of a device such as a rudder, paddle, or wheel. **2a.** To direct the course of. ... **b.** To maneuver (a person) into a place or course of action...." *The American Heritage Dictionary of the English Language* (4<sup>th</sup> ed. 2000), found at [www.bartelby.com](http://www.bartelby.com).
  6. Burg explicitly describes that the nozzle can be used to steer the boat. In particular, Burg discloses a trimmable nozzle 45 including trim control

elements 47 and 57 (Burg, col. 7, ll. 1-6; Fig. 11). Burg further discloses that “it is possible to also use such control flap like elements on either side of a discharge nozzle to act as steering means and/or to use a rudder element disposed in the discharge jet as steering means” (Burg, col. 7, ll. 12-15). It is clear from the disclosure in Burg that the control elements 47 and 57 comprise part of the nozzle 47 and can be used to steer the boat.

7. The Specification describes that “r” is the internal radius or the largest internal width of the steering nozzle (Specification 11:6-7), “c” is the inner circumference of the steering nozzle (Specification 11:15-16), and “w” is the maximum width of the groove (Specification 11:24-25).
8. Burg fails to disclose any specifics as to the length, width, or spacing of the grooves.
9. Kobayashi discloses a twin jet propelled watercraft (Kobayashi, col. 4, ll. 1-2; Figs 1 and 2).

#### PRINCIPLES OF LAW

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 827 (1987). “It is well settled that a prior art reference may anticipate when the claim limitations not expressly found in that reference are nonetheless inherent in it. Under the

principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates." *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349, 64 USPQ2d 1202, 1206 (Fed. Cir. 2002) (citations and internal quotation marks omitted). Once a prima facie case of anticipation has been established, the burden shifts to the Appellant to prove that the prior art product does not necessarily or inherently possess the characteristics of the claimed product. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977); *see also In re Spada*, 911 F.2d 705, 708-09, 15 USPQ2d 1655, 1657-58 (Fed. Cir. 1990).

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

## ANALYSIS

The Appellants contend that Burg does not anticipate claims 1, 3-7, and 9-13 because Burg does not describe a watercraft comprising a hull and an engine (Br. 5). The Examiner found that Burg describes a watercraft hull (col. 3, l. 60) and inherently discloses an engine (col. 1, l. 7) (Answer 7, 10). We agree with the Examiner that Burg discloses a watercraft hull (Finding of Fact 1). We further agree with the Examiner that Burg inherently discloses an engine (Finding of Fact 2). We find that Burg's disclosure of even engine loading, combined with Burg's disclosure that the object of the invention is to control the trim of the boat with the waterjet propulsor, makes it clear that the boat disclosed in Burg must necessarily include an engine to drive the shaft 36 of the propulsor 51 (Finding of Fact 2). As such, we find that the Examiner established a prima facie case of anticipation, and the Appellants failed to show that the prior art waterjet propulsor-driven boats do not necessarily or inherently possess an engine. As such, we find the Appellants' argument unpersuasive.

The Appellants further contend that Burg does not anticipate claims 1, 3-7, and 9-20, because Burg does not disclose an articulated nozzle, claimed as "a steering nozzle," but only a non-movable, static discharge or convergent nozzle, which does not operate to steer the watercraft (Br. 5-7). The Examiner found that Burg's nozzle 45, as shown in Figure 11, is a steering nozzle because the control flap elements 47 and 57 are part of the nozzle 45, and Burg discloses that the control flap elements can act as steering means (Answer 4, 10-11). The Examiner further found that "a steering nozzle does not have to be articulated" and the



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Appellants do not claim an articulated nozzle (Answer 12, 13). We again agree with the Examiner.

Independent claims 1, 7, and 14 each claim “a steering nozzle,” but none of these claims require the steering nozzle to be articulated (Finding of Fact 3). We determine the scope of the claims in patent applications not solely on the basis of the claim language, but upon giving claims “their broadest reasonable interpretation consistent with the specification” and “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004). It is the appellants’ burden to precisely define the invention, not the PTO’s. *In re Morris*, 127 F.3d 1048, 1056, 44 USPQ2d 1023, 1029 (Fed. Cir. 1997); *see also In re Paulsen*, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (“Although an inventor is indeed free to define the specific terms used to describe his or her invention, this must be done with reasonable clarity, deliberateness, and precision.”). Appellants always have the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

In this case, the Appellants did not provide any definition of steering nozzle in their Specification, and the Appellants have failed to show that the phrase “steering nozzle” is a term of art with a well recognized and definite meaning (Finding of Fact 4). Rather, the Appellants contend that Burg’s nozzle is not a steering nozzle because it is static and not articulated. We do not construe the

claimed “steering nozzle” so narrowly as to require an articulated nozzle. Rather, the broadest reasonable interpretation of “steering nozzle” in light of the Specification is a nozzle that guides or directs the course of the boat.<sup>1</sup> We have difficulty finding that Burg’s nozzle is not a steering nozzle when Burg explicitly describes that the nozzle can be used to steer the boat (Finding of Fact 6). As such, Burg’s nozzle 47 anticipates the claimed “steering nozzle.”

The Appellants further contend that Burg does not anticipate or render obvious the subject matter of claims 11-13 and 17-20 because the Appellants sufficiently defined the meanings of the terms used in these claims in the Specification, and the Examiner failed to establish a prima facie case of obviousness (Br. 7, 11). The Examiner found that because the Appellants have not “given a meaning to ‘r’, ‘c’ and ‘w’ within the claims” the grooves 46 of Burg anticipate these claims (Answer 5). The Examiner further determined that it would have been obvious to provide the grooves 45 of Burg with the claimed length, width, and spacing, as claimed, in order “to make a nozzle of a particular size having grooves of a particular width, length and spacing” (Answer 6). The Examiner further noted that the Appellants have not provided any evidence, such as test results, to show that the claimed dimensions provide an improved result (Answer 23).

We agree with the Appellants that the terms “r,” “c,” and “w” are clearly defined in the Specification (Finding of Fact 7). Burg fails to disclose any

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<sup>1</sup> The common dictionary meaning of the verb “steer” includes to guide by means of a device such as a rudder, paddle, or wheel or to direct the course of (Finding of Fact 5).

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specifics as to the length, width, or spacing of the grooves (Finding of Fact 8). As such, we cannot sustain the Examiner's rejection of claims 11-13 and 17-20 as anticipated by Burg.

We also find the Examiner has failed to set forth a *prima facie* case of obviousness of these claims in view of Burg. The rationale provided by the Examiner amounts to a finding that it would have been obvious to make the grooves with the dimensions claimed so as to have a nozzle with grooves of the dimensions claimed. We find that this reasoning is circular and conclusory and does not provide articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (*cited with approval in KSR*, 127 S.Ct. at 1741, 82 USPQ2d at 1396). As such, we cannot sustain the Examiner's rejection of claims 11-13 and 17-20 under 35 U.S.C. § 103(a) as unpatentable over Burg.

The Appellants further contend that claims 2 and 8 are patentable because neither Burg nor Kobayashi teaches or suggests a steering nozzle with the features of the claimed invention (Br. 9). For the reasons provided *supra*, we find that Burg discloses a steering nozzle with the features of independent claims 1 and 7, from which claims 2 and 8 depend.

The Appellants further contend that claims 2 and 8 are patentable because the Examiner has not provided any reason, suggestion, or motivation for the person of ordinary skill in the art to have combined or modified the references (Br. 9). The Examiner relied on Kobayashi to show a prior art boat having two propulsors and determined that it would have been obvious to provide the boat of Burg with

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two propulsors, as suggested by Kobayashi, both similar to the one propulsor of Burg in order to provide more power to the boat (Answer 5). We agree with the Examiner that Kobayashi discloses a twin jet propelled watercraft (Finding of Fact 9). We further find the Appellants' argument without merit since it is clear from the Answer that the Examiner provided a reason for a person to have modified the boat of Burg to add another propulsor, *viz.*, "to provide more power to the boat." Although there is no explicit teaching or suggestion in the references to make the proposed modification, such teaching or suggestion does not have to be explicit. *See KSR*, 127 S.Ct. at 1741, 82 USPQ2d at 1396 ("As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ). Further, we find that the addition of the claimed second propulsor would have been obvious because it is no more than the arrangement of old elements with each performing the same function it had been known to perform, and yields no more than one would expect from such a combination. *See Sakraida v. AgPro, Inc.*, 425 U.S. 273 (1976). As such, we sustain the Examiner's rejection of claims 2 and 8 as unpatentable over Burg and Kobayashi.

#### CONCLUSIONS OF LAW

We conclude the Appellants have shown that the Examiner erred in rejecting claims 11-13 and 17-20 as anticipated by Burg and as unpatentable in view of Burg. We conclude that the Appellants have failed to show that the Examiner

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erred in rejecting claims 1, 3-7, 9, 10, and 14-16 as anticipated by Burg and claims 2 and 8 as unpatentable over Burg and Kobayashi.

#### DECISION

The decision of the Examiner to reject claims 1-10 and 14-16 is affirmed, and the decision of the Examiner to reject claims 11-13 and 17-20 is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

#### AFFIRMED-IN-PART

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